

THE AVERAGE STREAM FLOW OF THE SAVANNAH RIVER.

By EUGENE D. EMIGH, Local Forecaster, Augusta, Ga.

Measurements of the stages of the Savannah River have been made at Augusta, Ga., since September, 1875 and at Calhoun, Falls S. C., since 1901. At Carlton, Ga., on the Broad River, a tributary of the Savannah, records exist since 1901. The tables herewith present the average stages at the stations named for each month and the year. A table giving the average annual precipitation over the Savannah watershed is also included.

On account of the relatively small amount of water ordinarily passing Calhoun Falls and Carlton it is not deemed necessary to add any comment to the tabular information concerning those points, but the importance of the location of Augusta on the Savannah River, with reference both to inland navigation and water power, warrants a more detailed treatment.

Though the amount of run-off is fairly steady, the river is, of course, subject to wide fluctuations in height, which has ranged from 2.5 feet in July and August, 1876, to 38.8 feet during the memorable flood of August 26 and 27, 1908. When a 7-foot stage is reached the navigation of river craft becomes very difficult, and any lower level of the water will prevent the operation of boats. With the river below the 7-foot level, the development of full power by the water-power plants at Augusta also becomes impossible, although the river has never yet been so low as to cause the complete shutting down of the cotton mills which depend upon it for power. During the 420 months of the past 35 years river stages below 7 feet occurred in 240 months; of these, 14 were in January, 8 in February, 6 in March, 9 in April, 18 in May, 24 in June, 26 in July, 25 in August, 29 in September, 28 in October, 29 in November, and 24 in December.

The figures just given refer to extreme stages without regard to the duration of the period during which the water remained below 7 feet in depth. The river has been known, however, to remain below the 7-foot stage for more than a month at a time, and a number of months are represented by average stages of less than 7 feet. During the past 35 years the monthly average stage of the Savannah at Augusta has been below 7 feet once each in February, March, and April, 9 times in May, 8 times in June, 12 times in July, 10 times in August, 16 times in September, 19 times in October, 18 times in November, and 5 times in December.

The flood stage at Augusta is 32 feet, but farm land farther down stream is overflowed at a stage of 20 feet. The flood stage at Augusta has been reached 15 times during the 35 years covered by the records. The most notable floods were those of September 11, 1888, and August 27, 1908, when the maximum stages attained were, respectively, 38.7 and 38.8 feet. During such floods as these much damage to property is inevitable,

for the water stands several feet deep over the business and much of the main residence districts.

The average stage at Augusta is 9.2 feet. The highest mean stages occur in February and March, 12.4 and 12.1 feet, respectively, while the stage is lowest in October, with a mean of 7 feet.

Mean and extreme stages in the Savannah River at Augusta, Ga., 1876 to 1910.

[Flood stage, 32 feet.]

Month.	Mean.	High- est.	Low- est.	Month.	Mean.	High- est.	Low- est.
January.....	11.0	32.8	5.0	August.....	8.7	38.8	2.5
February.....	12.4	33.3	5.8	September.....	7.9	38.7	3.8
March.....	12.1	35.5	5.4	October.....	7.0	28.5	3.4
April.....	10.7	32.2	5.2	November.....	7.5	24.5	4.0
May.....	8.5	32.5	3.7	December.....	9.0	31.0	4.5
June.....	8.6	28.2	3.1	The year.....	9.2	38.8	2.5
July.....	8.1	34.5	2.5				

¹ Aug. 27, 1908.

² Stage of 0.0 feet occurred in 1835; 2.5 occurred in July and August, 1876.

Mean and extreme stages in the Savannah River at Calhoun Falls, S. C., 1901 to 1910.

[Flood stage, 15 feet.]

Month.	Mean.	High- est.	Low- est.	Month.	Mean.	High- est.	Low- est.
January.....	3.6	11.0	2.1	August.....	3.8	28.2	1.5
February.....	4.2	16.4	2.2	September.....	3.3	17.2	1.5
March.....	4.1	16.5	2.4	October.....	2.8	9.9	1.0
April.....	3.4	12.9	1.4	November.....	2.6	7.9	1.1
May.....	3.3	10.2	1.3	December.....	3.5	17.9	2.0
June.....	3.4	15.3	1.4	The year.....	3.4	28.2	1.0
July.....	3.3	13.0	1.6				

¹ Aug. 25, 1908.

Mean and extreme stages in the Broad River at Carlton, Ga., 1901 to 1910.

[Flood stage, 11 feet.]

Month.	Mean.	High- est.	Low- est.	Month.	Mean.	High- est.	Low- est.
January.....	3.4	19.0	2.0	August.....	3.4	29.0	1.6
February.....	4.1	24.5	2.0	September.....	2.7	14.8	1.4
March.....	4.1	23.2	2.0	October.....	2.5	6.8	1.4
April.....	3.2	12.5	2.0	November.....	2.4	6.1	1.6
May.....	3.1	9.5	1.8	December.....	3.3	19.9	1.7
June.....	3.0	12.7	1.6	The year.....	3.2	29.0	1.4
July.....	3.0	8.2	1.4				

¹ Aug. 25, 1908.

Normal average rainfall over the Savannah watershed above Augusta, Ga.

[Computed from records for stations at Anderson, S. C., Augusta, Ga., Carlton, Ga., Calhoun Falls, S. C., Clemson College, S. C., Elberton, Ga., Greenwood, S. C., Point Peter, Ga., Toocoa, Ga., Walhalla, S. C., and Washington, Ga.]

	Inches.		Inches.
January.....	4.21	August.....	6.02
February.....	5.42	September.....	3.90
March.....	4.92	October.....	2.66
April.....	3.67	November.....	2.87
May.....	3.40	December.....	4.37
June.....	4.63	The year.....	51.35
July.....	5.28		